

The Power of Product Information Delivery

Learn How Your Product Information Impacts Product Performance and Profitability

Abstract

In today's global, competitive marketplace, manufacturers are scrutinizing every cost and revenue center in order to cut costs and improve performance. One opportunity for significant change is the creation and delivery of technical product information as it relates to launching and maintaining products throughout their lifecycle.

Truly innovative organizations have begun to elevate the function of product information delivery within their overall product development processes, and have transitioned product information from being a neglected requirement to a strategic component within a successful product's lifecycle.

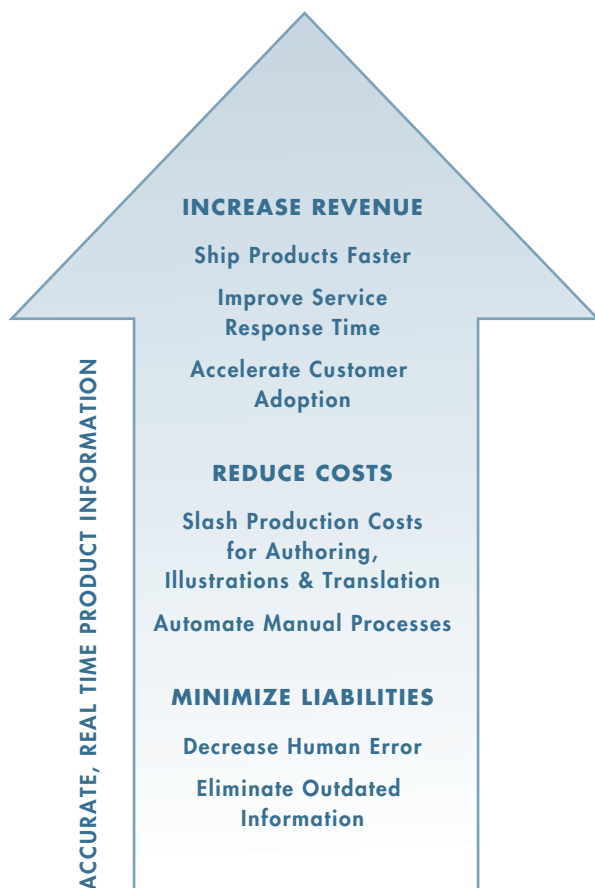
This white paper will describe the pitfalls of outdated, traditional product information processes commonly known as technical publications and documentation, and will detail the benefits and means to transform product information into an integral, strategic component within product development. Once adopted, an automated product information delivery solution has the power to improve new product readiness for launch, grow after-market services and spare parts revenues, and mitigate information risks, with the added ability to increase customer satisfaction.

What Is Product Information Delivery?

By definition, product information delivery is the way a manufacturer delivers targeted, real-time information directly into the hands of the consumer, repair technician, trainer, operator or salesperson, so as to facilitate a next action at a specific point in a product's lifecycle. Whether the 'next action' is to execute a repair, to operate the product, to provide training, or to purchase spare parts, the more accessible and accurate that information, the greater the likelihood of a successful transaction. Keeping that information at hand and up-to-date is the power of your product information delivery solution.

As a result, the quality of your product information has the capacity to influence not only your revenues, but also your brand awareness, compliance and legal obligations. Whether that influence hurts or helps your products and your company's performance depends on how well you prioritize the quality and delivery of that product information.

An automated, high-quality product information delivery solution means that your products are available to the market faster because your technical information, in the forms of user manuals, assembly instructions, field service manuals – online or offline – are produced concurrently with product development. That same quality information can then be used as needed to deliver up-to-date, accurate product information to purchase additional products and results in greater customer satisfaction throughout the product's lifecycle.



How is Your Product Information Managed?

Traditionally, manufacturing organizations have not considered the quality and accuracy of their technical product information as a contributor to a product's performance. Instead, they have been managing product information within an isolated work group known as Technical Publications or Documentation, which is not measured on the product's success or sales performance. Generally, this group still relies on outdated, labor-intensive processes and disparate information applications to produce product information that isn't aligned with a product's revenue and service objectives.

However, when companies realize that product information is a crucial factor to product success, only then do they adopt aggressive practices to ensure the timeliness and accuracy of product information. Which begs the question: what's the optimal way to create and deliver vital product information today? The answer: to implement a single, centralized product information management system, allowing authors, illustrators and engineers to reuse enterprise content and repurpose engineering CAD data, within an integral system that filters, assembles and delivers information automatically.

In order to 'evolve' your current processes toward a modern product information delivery system, it's essential to determine your organization's current status and future objectives. By leveraging industry best practices, your organization can focus on incremental improvements to current product information deliverables, with an ultimate goal to implement a fully automated information delivery system that's fully aligned with future sales, engineering and corporate goals.

The Central Role of Product Information Delivery

Within manufacturing organizations, product information now touches almost every element of a product's lifecycle. Product information delivery is no longer just a function of creating static technical information for a new product launch, but rather a long-term mandate to deliver relevant, up-to-date product information for use at any point in the lifecycle – within manufacturing, at shipment, for field service, or a product recall, for example.

This white paper will discuss the two major contributors to the optimization of product information delivery:

1. Product information reuse and automation
2. Evolving a product information delivery system

It's essential for product development organizations to focus on both of these contributors in order to gain the greatest advantages related to product information delivery.

Addressing just one of these contributors will result in unpredictable benefits. For instance, if you're producing high-quality, accurate product information, but are doing so with poor delivery methods such as static text or paper-based only, then the quality and adoption of the information is diminished.

Product Information Delivery provides explicit product information to empower the reader (end user, operator, field services, educator, or manufacturer) to take a next action as it relates to a point in that product’s lifecycle. Next actions might include:

- | | |
|----------|-------------|
| Assemble | Operate |
| Repair | Maintain |
| Recall | Reconfigure |
| Service | Manufacture |

Quality product information impacts product and revenue performance by accelerating sales, increasing brand awareness, and adhering to compliance and legal guidelines.

As organizations improve their authoring and illustrating processes to deliver real-time, high-quality product information, they evolve through the following levels of product information development:

Maturity Level 1: Manual or Desktop Publishing

Desktop publishing is the most basic – and most outdated – method of producing product information. Although still very common, desktop publishing is expensive, inefficient and error-prone because authors and illustrators typically waste time either re-creating content that already exists somewhere in the organization, or “copying and pasting” content from one document to the next.

Desktop publishing requires that much of the author’s time is spent locating, formatting, editing, translating, and publishing static content for each revision. And, if that same product information requires multiple formats for output, such as Web, print, CD, or wireless, the content has to be manually formatted for each output and then reformatted with every change. This outdated practice results in excessive labor requirements, inconsistent content delivery among varying authors and, ultimately, outdated product information.

Maturity Level 2: Product Information Reuse

By using a structured product information delivery approach, organizations can author product information in packaged, reusable components. This approach allows authors and illustrators to minimize content creation, simplify updates and localization, and format information automatically.

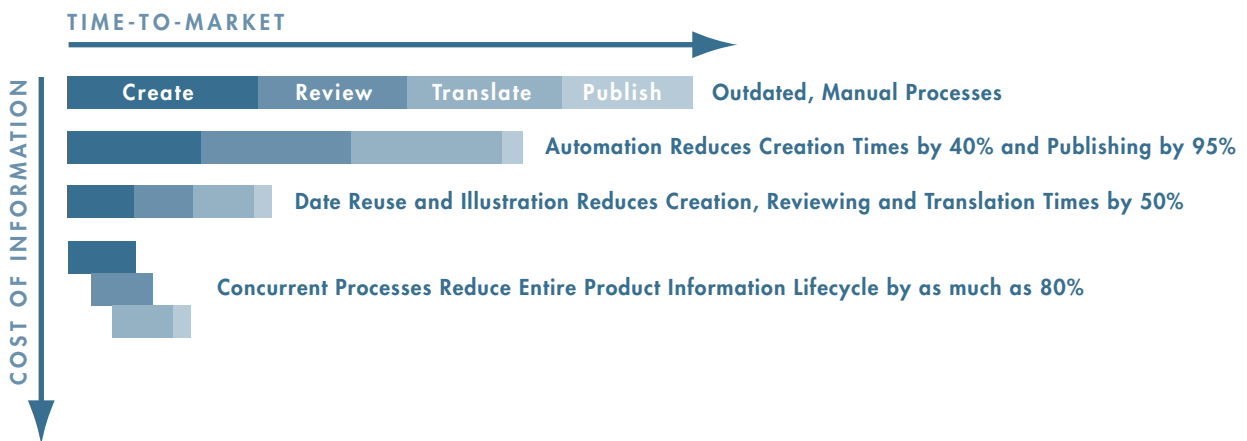
Structured information enables real-time updates for all associated products, after any of the source components have been changed, without affecting unchanged components or unrelated documents. Additionally, structured product information is controlled in a single-source content management system to ensure that final, authorized components are ready to be assembled and output to print, the Web, PDF, Help or wireless, or delivered via a Web-based delivery system.

Alternatively, if you’re developing the latest methods of information communication, such as web-based or interactive formats, but using inconsistent or obsolete engineering data, then you are putting at risk the company’s credibility and customer satisfaction.

Product Information Reuse and Automation

Today, companies are compelled to re-evaluate the entire concept of product information in order to support organizational imperatives and industry demands related to growing revenues, improving customer support, and adhering to compliance mandates. Fortunately, new technologies have enabled automatic delivery of context explicit, task-specific information, assembled in real time for individual consumers.

To support your organization as it strives to optimize its information development maturity level (see chart below), you need to first address the underlying business processes that ensure your product information is up-to-date and dynamic.



Accelerate information time-to-market and improve business efficiencies with automated product information processes linked to real-time engineering and operations data.

Moving from a monolithic Desktop Publishing method to a “data reuse” approach for product information accelerates the creation, format and delivery of product information, while yielding tremendous business gains through improvements in time-to-market and output quality. However, if you keep the processes of creating and delivering product information disconnected from the engineering and operations data generated during the design of the product itself, you miss out on the additional value accelerator: the delivery of synchronized product information.

Maturity Level 3: Product Information Reuse and CAD Data

Imagine the power of incorporating existing engineering CAD designs into technical product information. By incorporating real-time, applicable engineering, operations and services data, authors greatly increase product information accuracy and relevancy. Additionally, illustrators can greatly reduce cycle times by producing 2D and 3D illustrations from actual engineering CAD models. This practice ensures product information quality and readiness in conjunction with product launch and downstream aftermarket services requirements.

Additionally, through the associative linking of product information to real-time engineering or service databases, organizations can automate information change management processes when products, designs or configurations change.

Maturity Level 4: Product Information and CAD Data Reuse with Process Automation

Finally, to achieve the ultimate business value, a product information delivery system provides concurrent authoring of text and illustrative content throughout the engineering and product development processes across a distributed environment. The system must support all phases of information development, including content authoring; 2D and 3D illustrations; review and approvals with subject matter experts; revision control; information configuration management; and the automatic assembly and delivery of information to multiple targets and multiple media.

After all, if the main purpose of product information delivery is to consistently support the actual product at any point in its lifecycle – from the operator’s manual, to an updated service procedure or spare parts catalog, and through its disposition – then organizations are most successful when their information delivery processes are automated and integrated.

Evolving a Product Information Delivery System

When an organization better aligns its product information delivery system with its product development processes, it is then capable of achieving an interactive, real-time product information delivery environment.

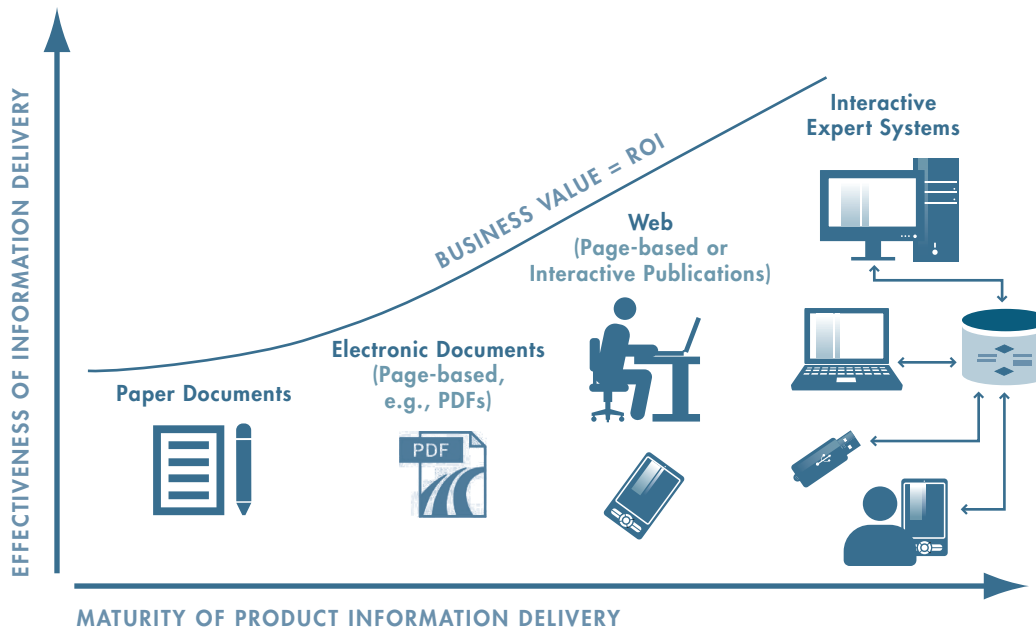
However, most organizations fall somewhere to the left of the optimal product information delivery maturity model (on next page). It is the capacity to adjust internal thinking, and create finite goals to align product information delivery within product development, that transforms the impact of product information. To start, you must accept that the end goal is a departure from your traditional method of disparate product documentation, and that the future is an integral, process-centric methodology that encompasses various contributors throughout the enterprise.

The adoption of intelligent, interactive product information delivery will transform the way products are sold, operated, serviced, upgraded and maintained. Let’s consider the various methods of taking product information to market, their limitations on delivery effectiveness, and their drain on business resources, in an effort to justify the evolution toward an interactive expert system.

- **Paper Documents** – In the past, paper documents have been the standard format for providing product information at the time of shipment. These printed documents are intended for broad audiences and often serve as collections of important groups of information, such as “How to” manuals: How to Operate, How to Service, and How to Maintain the product.
- **Electronic, Page-based Documents** – Most electronic documents use paged-based PDF or simple HTML formats to provide an electronic, or ‘soft copy,’ version of a printed document. Although these formats offer significant advantages over printed paper documents, by enabling users to efficiently store and transport large quantities of information digitally and to search through large volumes of text, they suffer from the same operational and financial drawbacks as paper documents.

In fact, for most tasks associated with the design, operation, service and maintenance of products, traditional paper-based and electronic page-based documents are an inferior means of delivering information because they:

- Depend on disparate, expensive manual labor to collect, rework and publish information for each revision of a document
- Cause disruptions to shipments, spare parts delivery, and field maintenance as products await static, page-based (printed or PDF) product information
- Render information outdated before the document is ever distributed and increase the likelihood of obsolete information entering the market and legal exposure
- Incur excessive – almost prohibitive – costs associated with printing (in the case of paper) and localization (translation and layout), while reducing the potential quality of production



Evolving a product information system requires that you first understand your place on the maturity model today and how to adopt integral, process-centric improvements in order to reach information delivery excellence.

- **Web-based** – In today's Web-based environment, organizations are compelled to move their product information to richer, real-time media to achieve data accessibility and timeliness goals in order to most effectively accomplish field service tasks and to meet customer demands. Not only is Web-based product information delivery more flexible and responsive, but the Internet enables the use of interactive 3D graphics and animations, which reduces the need for lengthy text when explaining precise product configurations and repairs.

Further along the maturity of information delivery, an organization can expand their Web-based systems with the capability to deliver interactive, multi-format, multi-language product information with underlying content databases that enable the dynamic assembly and formatting of Web-based information on demand. Readers can easily navigate to the explicit information required to focus on their current task, whether they need service, a spare part, an upgrade, or a warranty renewal. Web-based environments provide a greatly improved user experience while shortening the transaction cycle for better product and service performance.

Although delivering tremendous process acceleration and value, the interactive Web-based delivery system still requires that readers navigate the information on their own to satisfy their current goals. It's the evolution to the expert, interactive system that provides that additional layer of intelligence to automate and improve the reader experience.

- **Interactive Expert System** – Ultimately, it is the interactive expert system that not only provides the comprehensive capabilities related to delivering effective product information reviewed above, but also adds a layer of intelligence to automate the reader experience.

The expert system assembles interactive, precise product information in real time based on various elements – including the user's responses and profile, the product's specific model configuration, a designated task such as fulfilling a maintenance request, or something more complex such as obtaining instant feedback from a product diagnostic system in order to provide online, step-by-step instructions, including 3D animations on how to perform a needed repair. In this example, the interactive instructions are dynamically delivered in the format and media of choice – paper, email, text, Web page or may even be embedded in the product itself – and will support multiple languages all in realtime.

At this phase in the evolution toward an electronic product information delivery solution, organizations receive the greatest business value as they are able to accommodate a captive customer with minimal cost per transaction, to deliver an optimal user experience, and to comply with corporate and regulatory guidelines.

By aligning information reuse and automation process improvements with the phase-based adoption of the product information delivery solution, organizations can realize incremental improvements to their current product information deliverables. At the same time, they can build an automated, integral information delivery solution that's aligned with future sales, engineering and corporate goals.

Product Information at Work

- User & operator guides
- Assembly instructions
- Field Service procedures
- Product alerts & recalls
- Compliance mandates
- Help-desk information
- Maintenance manuals
- Manufacturing instructions
- Spare parts catalogs
- Disposition guidelines
- Training materials
- Reference materials

PTC Perspective

Arbortext Optimizes Product Information Delivery

Arbortext, PTC's product information delivery solution, delivers unmatched process integration and automation. With Arbortext, PTC provides companies with the unique capability to repurpose the abundance of engineering-driven product information created throughout the product development process, so you can concurrently develop products and create accurate product information. Arbortext automatically delivers product information in multiple formats – online and offline – in the languages required. With Arbortext, manufacturers have the tools they need to ensure information quality and readiness, improve competitiveness, mitigate information risks, and increase customer satisfaction.

Quality Product Information – Anytime, Any Format, Anywhere

Arbortext is the industry's only integral solution for delivering product information throughout every phase of product development, including content authoring, 2D and 3D illustrations and animations, a single-source content management system, automated publishing, and dynamic interactive delivery. The PTC product information delivery solution has the power to improve product readiness for launch, to grow after-market services and spare parts revenues, and mitigate information risks with the added ability to increase customer satisfaction.